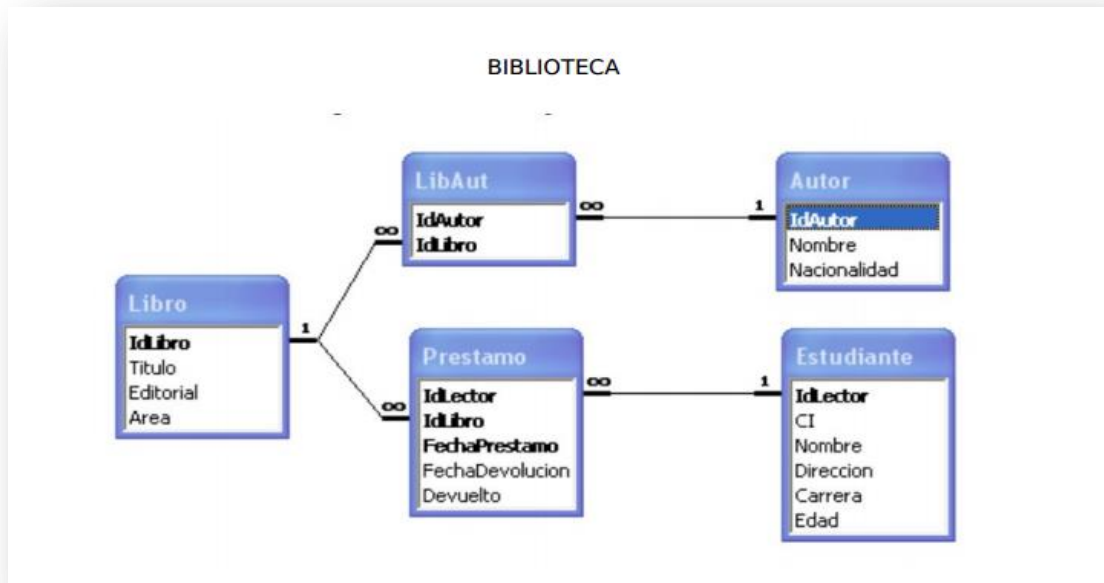# MySQL

Crear   base de datos "Biblioteca"


```
mysql> create database Biblioteca;
Query OK, 1 row affected (0.00 sec)
```

Crear tabla Libro:


```
mysql> use Biblioteca;
Database changed
mysql> create table Libro
    -> (
    -> IdLibro INT NOT NULL,
    -> Titulo varchar(30),
    -> Editorial varchar(50),
    -> Area varchar(50),
    -> PRIMARY KEY (IdLibro)
    -> );
Query OK, 0 rows affected (0.07 sec)
```

Crear tabla Autor:

```
mysql> Create table Autor
    -> (
    -> IdAutor INT NOT NULL,
    -> Nombre varchar(50),
    -> Nacionalidad varchar(50),
    -> PRIMARY KEY(IdAutor)
    -> );
Query OK, 0 rows affected (0.09 sec)
```

Crear tabla Estudiante:

```
mysql> Create table Estudiante
    -> (
    -> IdLector INT NOT NULL,
    -> Nombre varchar(50),
    -> Direccion varchar(50),
    -> Carrera varchar(50),
    -> Edad int,
    -> PRIMARY KEY(IdLector)
    -> );
Query OK, 0 rows affected (0.07 sec)
```

Crear tabla LibAut:

```
mysql> create table LibAut
    -> (
    -> IdAutor INT NOT NULL,
    -> IdLibro INT NOT NULL,
    -> FOREIGN KEY(IdAutor) REFERENCES Autor(IdAutor),
    -> FOREIGN KEY(IdLibro) REFERENCES Libro(IdLibro)
    -> );
Query OK, 0 rows affected (0.13 sec)
```

Crear tabla Préstamo:

```
mysql> create table Prestamo
    -> (
    -> IdLector INT NOT NULL,
    -> IdLibro INT NOT NULL,
    -> FechaPrestamo date,
    -> FechaDevolucion date,
    -> Devuelto varchar(15),
    -> FOREIGN KEY(IdLector) REFERENCES Estudiante(IdLector),
    -> FOREIGN KEY(IdLibro) REFERENCES Libro(IdLibro)
    -> );
Query OK, 0 rows affected (0.08 sec)
```

Insertar registros en la tabla Libro:

```
mysql> Insert INTO Libro values(01, 'caperucita' , 'Noriega' ,'Español');
Query OK, 1 row affected (0.20 sec)

mysql> Insert INTO Libro values(02, 'Los 3 cochinitos','Arlequin','Español'),
    -> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MySQL server version for the right syntax to use near '' at
line 1
mysql> Insert INTO Libro values(02, 'Los 3 cochinitos','Arlequin','Español');
Query OK, 1 row affected (0.04 sec)

mysql> Insert INTO Libro values(03, 'Algebra','Arlequin','Matematicas');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO Libro values(04, 'Matematicas 2','Arlequin','Matematicas');
Query OK, 1 row affected (0.03 sec)

mysql> Insert INTO Libro values(05, 'Informatica II','Arlequin','Informatica');
Query OK, 1 row affected (0.04 sec)

mysql> select * from Libro;
+--------+-----------------+----------+-------------+
| IdLibro | Titulo         | Editorial | Area        |
+--------+-----------------+----------+-------------+
|      1 | caperucita      | Noriega  | Español     |
|      2 | Los 3 cochinitos | Arlequin | Español     |
|      3 | Algebra         | Arlequin | Matematicas |
|      4 | Matematicas 2   | Arlequin | Matematicas |
|      5 | Informatica II  | Arlequin | Informatica |
+--------+-----------------+----------+-------------+
```

Insertar registros en la tabla Autor:

```
mysql> insert  INTO Autor values
    -> (01,'Alejandro Escamilla',' Argenito');
Query OK, 1 row affected (0.06 sec)

mysql> insert  INTO Autor values
    -> (02,'Fernando Altamirar','Mexicano');
Query OK, 1 row affected (0.00 sec)

mysql> insert  INTO Autor values
    -> (03,'Cesar Orozco','Bracileño');
Query OK, 1 row affected (0.00 sec)

mysql> insert INTO Autor values
    -> (04,'Pedro Almendaris','Cubano');
Query OK, 1 row affected (0.00 sec)

mysql> insert INTO Autor values
    -> (05,'Pedro Cazares','Argentino');
Query OK, 1 row affected (0.00 sec)

mysql> select * from Autor;
+---------+--------------------+--------------+
| IdAutor | Nombre             | Nacionalidad |
+---------+--------------------+--------------+
|       1 | Alejandro Escamilla |  Argenito    |
|       2 | Fernando Altamirar | Mexicano     |
|       3 | Cesar Orozco       | Bracileño    |
|       4 | Pedro Almendaris   | Cubano       |
|       5 | Pedro Cazares      | Argentino    |
+---------+--------------------+--------------+
```

Insertar registros en la tabla Estudiante:

```
mysql> insert INTO Estudiante values
    -> (01,'Alejandro Mendoza', 'Fresnos #5', 'Informatica',18);
Query OK, 1 row affected (0.05 sec)

mysql> insert INTO Estudiante values
    -> (02,'Fernando Mendoza', 'Pedregal #189', 'Informatica',18);
Query OK, 1 row affected (0.00 sec)

mysql> insert INTO Estudiante values
    -> (03,'Caterina Figueroa', 'Arcos #178', 'Contaduria',20);
Query OK, 1 row affected (0.00 sec)

mysql> insert INTO Estudiante values
    -> (04,'Ivonne Ramirez', 'Arcos #18', 'Psicologia',19);
Query OK, 1 row affected (0.25 sec)

mysql> insert INTO Estudiante values
    -> (05,'Jairo Villanueva', 'Maria Luisa #18', 'Informatica',19);
Query OK, 1 row affected (0.00 sec)

mysql> select * from Estudiante;
+----------+-------------------+-----------------+-------------+------+
| IdLector | Nombre            | Direccion       | Carrera     | Edad |
+----------+-------------------+-----------------+-------------+------+
|        1 | Alejandro Mendoza | Fresnos #5      | Informatica |   18 |
|        2 | Fernando Mendoza  | Pedregal #189   | Informatica |   18 |
|        3 | Caterina Figueroa | Arcos #178      | Contaduria  |   20 |
|        4 | Ivonne Ramirez    | Arcos #18       | Psicologia  |   19 |
|        5 | Jairo Villanueva  | Maria Luisa #18 | Informatica |   19 |
+----------+-------------------+-----------------+-------------+------+
```

Insertar registros en la tabla LibAut:

```
mysql> insert into LibAut values
    -> (01,01);
Query OK, 1 row affected (0.04 sec)

mysql> insert into LibAut values
    -> (02,02);
Query OK, 1 row affected (0.04 sec)

mysql> insert into LibAut values
    -> (03,03);
Query OK, 1 row affected (0.04 sec)

mysql> insert into LibAut values
    -> (04,04);
Query OK, 1 row affected (0.00 sec)

mysql> insert into LibAut values
    -> (05,05);
Query OK, 1 row affected (0.03 sec)

mysql> select  * from LibAut;
+---------+--------+
| IdAutor | IdLibro |
+---------+--------+
|       1 |      1 |
|       2 |      2 |
|       3 |      3 |
|       4 |      4 |
|       5 |      5 |
+---------+--------+
5 rows in set (0.00 sec)
```

Insertar registros en la tabla Préstamo:

```
mysql>
mysql> insert into Prestamo values
    -> (01,01,06/08/2013,06/09/2013,'no');
Query OK, 1 row affected (0.10 sec)

mysql> insert into Prestamo values
    -> (02,02,13/08/2013,06/09/2013,'no');
Query OK, 1 row affected (0.00 sec)

mysql> insert into Prestamo values
    -> (03,03,06/09/2013,06/12/2013,'si');
Query OK, 1 row affected (0.03 sec)

mysql> insert into Prestamo values
    -> (04,04,06/11/2013,06/12/2013,'si');
Query OK, 1 row affected (0.04 sec)

mysql> insert into Prestamo values
    -> (05,05,8/12/2013,29/12/2013,'no');
Query OK, 1 row affected (0.00 sec)

mysql> select * from Prestamo;
+----------+---------+--------------+----------------+----------+
| IdLector | IdLibro | FechaPrestamo | FechaDevolucion | Devuelto |
+----------+---------+--------------+----------------+----------+
|        1 |       1 | 0000-00-00   | 0000-00-00     | no       |
|        2 |       2 | 0000-00-00   | 0000-00-00     | no       |
|        3 |       3 | 0000-00-00   | 0000-00-00     | si       |
|        4 |       4 | 0000-00-00   | 0000-00-00     | si       |
|        5 |       5 | 0000-00-00   | 0000-00-00     | no       |
+----------+---------+--------------+----------------+----------+
5 rows in set (0.04 sec)
```

Crear vistas:

```
mysql> create view Vista1
    -> as
    -> select
    -> Titulo,
    -> Editorial,
    -> FechaPrestamo
    -> from
    -> Libro,Prestamo;
Query OK, 0 rows affected (0.09 sec)

mysql> select* from Vista1
    -> select* from Vista1;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MySQL server version for the right syntax to use near 'selec
t* from Vista1' at line 2
mysql> select * from Vista1;
+----------------+-----------+----------------+
| Titulo         | Editorial | FechaPrestamo  |
+----------------+-----------+----------------+
| caperucita     | Noriega   | 0000-00-00     |
| Los 3 cochinitos | Arlequin | 0000-00-00     |
| Algebra        | Arlequin  | 0000-00-00     |
| Matematicas 2  | Arlequin  | 0000-00-00     |
| Informatica II | Arlequin  | 0000-00-00     |
| caperucita     | Noriega   | 0000-00-00     |
```

```
mysql> create view Vista2
    -> as
    -> select
    -> Nombre,
    -> Carrera,
    -> IdLibro,
    -> FechaPrestamo
    -> from
    -> Estudiante,Prestamo
    -> where
    -> Carrera='Informatica';
Query OK, 0 rows affected (0.07 sec)

mysql> select * from Vista2;
+-------------------+-------------+---------+---------------+
| Nombre            | Carrera     | IdLibro | FechaPrestamo |
+-------------------+-------------+---------+---------------+
| Alejandro Mendoza | Informatica |       1 | 0000-00-00    |
| Fernando Mendoza  | Informatica |       1 | 0000-00-00    |
| Jairo Villanueva  | Informatica |       1 | 0000-00-00    |
```

```
mysql> create view Vista3
    -> as
    -> select
    -> IdLibro,
    -> Nombre,
    -> Nacionalidad
    -> from
    -> LibAut,Autor
    -> where
    -> IdLibro='03';
Query OK, 0 rows affected (0.12 sec)

mysql> select * from Vista3;
+---------+---------------------+--------------+
| IdLibro | Nombre              | Nacionalidad |
+---------+---------------------+--------------+
|       3 | Alejandro Escamilla |  Argenito    |
|       3 | Fernando Altamirar  | Mexicano     |
|       3 | Cesar Orozco        | Bracileño    |
|       3 | Pedro Almendaris    | Cubano       |
|       3 | Pedro Cazares       | Argentino    |
+---------+---------------------+--------------+
```

```
mysql> create view Vista4
    -> as
    -> select
    -> Titulo,
    -> Area
    -> from
    -> Libro
    -> where
    -> Titulo='Algebra';
Query OK, 0 rows affected (0.01 sec)

mysql> select * from Vista4;
+---------+-------------+
| Titulo  | Area        |
+---------+-------------+
| Algebra | Matematicas |
+---------+-------------+
1 row in set (0.00 sec)
```

Crear Índices

Crear Índice en la tabla "Libro"

```
mysql> create INDEX I_Libro_Titulo ON  Libro(Titulo);
Query OK, 0 rows affected (0.12 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> show index from Libro;
+-------+------------+---------------+--------------+-------------+-----------+
+-------------+----------+--------+------+------------+---------+---------------+
| Table | Non_unique | Key_name      | Seq_in_index | Column_name | Collation |
 Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-------+------------+---------------+--------------+-------------+-----------+
+-------------+----------+--------+------+------------+---------+---------------+
| libro |          0 | PRIMARY       |            1 | IdLibro     | A
           5 |     NULL | NULL   |      | BTREE      |         |               |
| libro |          1 | I_Libro_Titulo |           1 | Titulo      | A
           5 |     NULL | NULL   | YES  | BTREE      |         |               |
+-------+------------+---------------+--------------+-------------+-----------+
+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.00 sec)
```

Crear Índice en la tabla "Autor"

```
mysql> create index I_Autor_Nombre ON Autor(Nombre);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> show index from Autor;
+-------+------------+---------------+--------------+-------------+-----------+
+-------------+----------+--------+------+------------+---------+---------------+
| Table | Non_unique | Key_name      | Seq_in_index | Column_name | Collation |
 Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-------+------------+---------------+--------------+-------------+-----------+
+-------------+----------+--------+------+------------+---------+---------------+
| autor |          0 | PRIMARY       |            1 | IdAutor     | A
           5 |     NULL | NULL   |      | BTREE      |         |               |
| autor |          1 | I_Autor_Nombre |           1 | Nombre      | A
           5 |     NULL | NULL   | YES  | BTREE      |         |               |
+-------+------------+---------------+--------------+-------------+-----------+
+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.00 sec)
```

Crear Índice en la tabla "Estudiante"

```
mysql> create index I_Estudiante_Nombre ON Estudiante(Nombre);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> show index from Estudiante;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
estudiante	0	PRIMARY	1	IdLector	A	5	NULL	NULL		BTREE		
estudiante	1	I_Estudiante_Nombre	1	Nombre	A	5	NULL	NULL	YES	BTREE		

```
2 rows in set (0.00 sec)
```

Índice en la tabla "LibAut"

```
mysql> show index from LibAut;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
libaut	1	IdAutor	1	IdAutor	A	5	NULL	NULL		BTREE		
libaut	1	IdLibro	1	IdLibro	A	5	NULL	NULL		BTREE		

```
2 rows in set (0.00 sec)
```

Índice en la tabla "Préstamo"

```
mysql> show index from Prestamo;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
prestamo	1	IdLector	1	IdLector	A	5	NULL	NULL		BTREE		
prestamo	1	IdLibro	1	IdLibro	A	5	NULL	NULL		BTREE		

```
2 rows in set (0.00 sec)
```